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(72) Inventor: **Marcolini, Roberto**
25068 Sarezzo Brescia (IT)

(74) Representative: **Savi, Alberto**
c/o CON LOR SPA,
Via Amatore Sciesa, 9
37122 Verona (IT)

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(71) Applicant: **Marcolini, Giuseppe S.n.c.,
di Marcolini Franco, Roberto & C.**
25068 Sarezzo (Brescia) (IT)

(54) **Particularly shaped hook for fixing wash-basins or the like to base planes**

(57) Particularly shaped hook for fixing wash-basins or the like to base planes of kitchens or bath-rooms. The peculiarity of this hook is that it comprises slide elements

which slide reciprocally and are connected to each other through shoulders which are inserted in cavities of one of the elements in which cavities said shoulders slide.

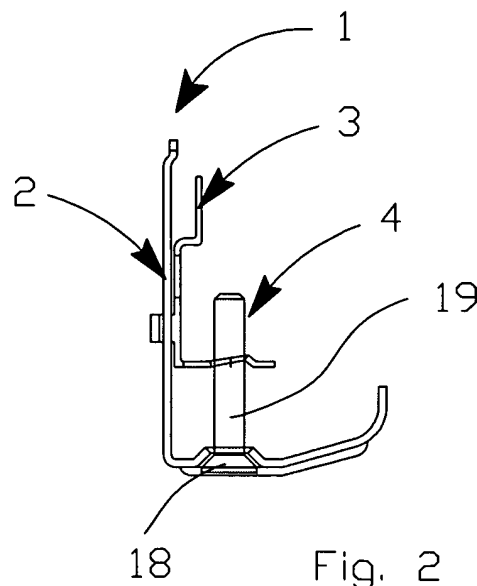


Fig. 2

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Description

[0001] The present invention relates to a particularly shaped hook that permits a precise clasping and securing of wash-basins of kitchens or the like to their respective base planes.

[0002] As is known, in the modular kitchens or bathrooms the wash-basin is usually inserted in the base plane of the furniture in which the wash-basin is retained and fixed. To this end, several types of hooks were conceived and carried out. These hooks comprised at least three pieces, two pieces being able to reciprocally slide and one piece being a connecting and clamping element such as a screw.

[0003] More particularly, these types of hooks of the prior art were too wide and involved a waste of material. In addition, a slide element was connected to a fixed element through a side fold of the metal lamina of which it was made. However, said fold was bent of 180° over the metal lamina to which the fold was bound and therefore, during the production the side fold caused a considerable trouble owing to its configuration.

[0004] Another problem of said types of hooks was the lack of locking means for the reciprocally sliding elements. In other words, the fixing of the pieces was accomplished by a riveted screw, which involved an increase in the production costs. In addition, in case the screw should not be a riveted screw, the sliding elements were free to disengage from each other, which involved further drawbacks such as a possible loss of pieces during the instalment of the wash-basin in the base plane.

[0005] Finally, the hooks according to prior art were utilized in base planes of conventional thicknesses. However, the thicknesses of the base planes that are presently on the market get thinner and thinner and this fact caused several problems such as an insufficient bite or even a non-bite of the hook with the base plane. As a consequence of this, the wash-basin was not fixed to the base plane safely.

[0006] The aim and function of the present invention is to remove all the above problems and other ones by proposing a hook which is provided with reciprocally sliding elements which are connected to each other through shoulders which are inserted in two cavities of the second element in which cavities said shoulders may slide.

[0007] The hook according to the present invention shows a vertical development in order to permit a utilization of base planes of different thicknesses. Besides, this hook permits to reduce the quantity of material to use in comparison with the hooks that are now present on the market. In this way, the production costs are lowered.

[0008] Further, the slide of the pieces is limited to a certain length by two projections arranged on one of the hook elements so that it is not necessary to use riveted screws. Said projections avoid a disjunction and a con-

sequent loss of one of said pieces. In this way, the hook in question can be provided in an assembled arrangement without any screw. The screw will be assembled with the hook during the instalment.

[0009] The invention is characterized by a hook which comprises elements which cooperate reciprocally and are held together by inserting two or more shoulders of one of said elements in cavities of a second element, comprising said second element projections which avoid a reciprocal disengagement; said elements sliding reciprocally and comprising holes in which an adjusting and locking screw is inserted, and coupling and retaining means on the free ends of the hook elements.

[0010] Further features and details of the present invention will be better understood from the following specification which is provided as a non-exclusive embodiment on the hand of the accompanying drawings wherein:

Fig. 1, 2 are a front view and a lateral view, respectively of the hook as a whole;

Fig. 3, 4 are a front view and a lateral view, respectively of the lower hook element; and

Fig. 5, 6 are a front view and a lateral view, respectively of the upper hook element.

[0011] With reference to the accompanying drawings, number 1 denotes a hook according to the present invention as a whole. Hook 1 comprises a lower element 2, a plate 3 and a connecting and adjusting screw 4.

[0012] The lower element 2 is shaped like a "L" and comprises a lateral part 8 and an end base 7 in which there is a cavity 11 showing a through hole 12.

[0013] Cavity 11 houses a head 18 of the connecting and adjusting screw 4. The end base 7 of the lower element 2 acts also as a clasping element through an end provided with tips 10.

[0014] The lateral part 8 of the lower element 2 comprises three vertical parts, namely, two symmetric elements 2 showing a substantially rectangular configuration and a central body 5 showing a round tip. Said central body 5 and the symmetric elements 6 form two cavities 9 as represented in Fig. 3.

[0015] Besides, the central body 5 is slightly slanting in comparison with the symmetric elements 6.

[0016] Plate 3, which is an element of the hook according to the present invention, comprises, in turn, four lateral shoulders 13, 14 of which the lower shoulders 13 are positioned on a different parallel plane in respect to the upper shoulders 14.

[0017] The upper part of plate 3 is provided with a coupling element 15 which has a suitable shape for the insertion in seats of the wash-basins.

[0018] The lower part of plate 3 is provided with an orthogonal lamina 16 that gives the plate an essential L-shape. Lamina 16 has a hole 17 in which a screw 4 is inserted.

[0019] The so-described configuration of the lower el-

ement 2 and plate 3 permits the insertion of the symmetric elements between shoulders 14 and shoulders 13. In turn, shoulders 13 are inserted in cavities 9 of the lower element 2 so as to slide and cooperate with the outer surfaces of the vertical elements 6. In this way, plate 3 can slide parallelly to the lower element 2.

[0020] For a more precise slide it is possible to incline the central body 5 that touches plate 3 on creating a sector of friction together with strengthening ribs 21. In addition, the presence of projections 20 on the internal ends of the symmetric elements 6 prevents plate 3 from going out of the slide seat formed by cavities 9 of the lower element 2.

[0021] The adjusting and locking screw 4 is a further connecting component which locks the lower element 2 of hook 1 with plate 3.

[0022] More precisely, head 18 of screw 4 is housed in cavity 11 showing through hole 12 in the end base 7 of the lower element 2 while the stem 19 of said screw 4 is inserted in the through hole 17 of the orthogonal lamina 16 of plate 3.

[0023] Now, an example of application of the hook according to the present invention will be described to better explain the innovative features of the hook itself.

[0024] A wash-basin is to be fixed in a stable and safe manner to a base plane of a modular piece of furniture.

[0025] The coupling element 15 is inserted in a suitable seat of the wash-basin to fix while the three-tip end 10 of the lower element 2 is leaned against the lower surface of the base plane.

[0026] Once the workman has ascertained that the coupling position is correct, he proceeds with the clamping by means of screw 4 and has plate 3 slid on the lower element until the distance between the three-tip end 10 of the lower element 2 and the coupling element 15 of plate 3 corresponds to the thickness of the base plane so that any displacement of the wash-basin is avoided.

[0027] Another advantage of the present hook is the possibility of removing it easily in any moment thanks to the considerable smoothness of the elements 2, 3 that form the hook.

[0028] A skilled artisan of the present sector can make changes or versions that are to be considered as included in the scope of protection of the present invention.

Claims

1. Particularly shaped hook for fixing wash-basins or the like to base planes, **characterized by** a hook which substantially comprises elements (2, 3) which cooperate reciprocally and are held together by inserting two or more shoulders (13, 14) of one (3) of said elements in cavities (9) of a second element, comprising said second element projections (20) which avoid a reciprocal disengagement; said elements (2, 3) sliding reciprocally and comprising holes in which an adjusting and locking screw (4) is

inserted, and coupling and retaining means (10, 15) on the free ends of the hook elements (2, 3).

2. Particularly shaped hook for fixing wash-basins or the like to base planes according to the foregoing claim, **characterized in that** the lower element (2) is shaped substantially like a "L" and comprises an end base (7) in which there is a cavity (11) showing a through hole (12) and an end provided with tips (10) and a lateral part (8) which comprises three vertical parts, namely, two vertical symmetric elements (6) showing a substantially rectangular configuration and a central body (5), wherein said vertical parts form cavities (9).
3. Particularly shaped hook for fixing wash-basins or the like to base planes according to the foregoing claims, **characterized in that** the central body (5) of the lower element (2) is slightly slanting in comparison with the vertical symmetric elements (6) and comprises friction-stiffening ribs (21).
4. Particularly shaped hook for fixing wash-basins or the like to base planes according to the foregoing claims, **characterized in that** plate (3) is shaped substantially like a letter "L", shows, in its vertical development, a face provided with lower shoulders (13) and upper shoulders (14) and ends with a coupling element (15).
5. Particularly shaped hook for fixing wash-basins or the like to base planes according to the foregoing claims, **characterized in that** the upper shoulders (14) may slide in the internal part of the vertical symmetric elements (6) of the lower element (2) while the lower shoulders are inserted in cavities (9), are bent, to a certain extent, on themselves and cooperate with the external part of the vertical symmetric elements (6) of the lower element (2).
6. Particularly shaped hook for fixing wash-basins or the like to base planes according to the foregoing claims, **characterized in that** the upper ends of the vertical symmetric elements (6) of the lower element (2) are provided with inward projections which limit the reciprocal slide and prevent an unintentional going out between the lower element (2) and plate (3).

